

## WHAT IS CLAIMED IS:

1. A therapeutic agent for treating diseases associated with an increase in radiation resistance or drug resistance of a cell, said agent comprising 5'-TCCATGGTGCTCACT-3' (SEQ ID NO:3) wherein said agent reduces radiation resistance or drug resistance of said cell.
2. The therapeutic agent of claim 1 wherein said agent reduces drug resistance of said cell and further wherein said drug resistance is a resistance to a chemotherapeutic agent.
3. A method for reducing radiation or drug resistance of a cell which does not overexpress *HER-2*, said method comprising introducing into said cell an antisense nucleic acid comprising a segment complementary to *HER-2* in an amount effective to reduce said radiation or drug resistance.
4. The method of claim 3 wherein said cell is a carcinoma cell selected from the group consisting of breast, bladder, prostate, head, neck, lung, colon, pancreas, cervical, ovarian, melanoma and stomach carcinoma cells.
5. The method of claim 3 wherein said antisense nucleic acid is introduced by association with a targeted liposome.
6. The method of claim 3 wherein said antisense nucleic acid comprises SEQ ID NO:3.
7. A method for treating a person with a disease wherein said person is resistant to radiation or drug treatment of said disease, wherein resistance to said radiation or drug treatment

(PDGF- $\beta$ ); *trk*; *met*; *src*; *mos*; *protein kinase C  $\beta$ -1*; *ets-1*; *raf-1*; *Ha-ras*; *c-Fos*; *c-Jun*; *c-myc*; *Shc*; *Grb2*; *Sos*; *PLC $\gamma$* ; and a gene encoding ERK1, ERK2, MEKK, MEK1, MEK2, MAPK, SAPK, MAP2, MAP4, TNF- $\alpha$  receptor, EGF receptor, PKC- $\alpha$ , PC-PLC, PKC- $\epsilon$ , an RTK, a TCR-CD3, an STMR, a PTKs, or a G protein.

9. The method of claim 8 wherein said gene is *Ha-ras*.
10. The method of claim 8 wherein said gene is *raf-1*.
11. The method of claim 7 wherein said antisense nucleic acid comprises SEQ ID NO:3.
- ~~12.~~ A method for reducing radiation or drug resistance of a cell which overexpresses *HER-2*, said method comprising introducing into said cell an antisense nucleic acid comprising a segment complementary to *HER-2* in an amount effective to reduce said radiation or drug resistance.
13. The method of claim 12 wherein said cell is a carcinoma cell selected from the group consisting of breast, bladder, prostate, head, neck, lung, colon, pancreas, cervical, ovarian, melanoma and stomach carcinoma cells.
14. The method of claim 12 wherein said antisense nucleic acid is introduced by association with a targeted liposome.
15. The method of claim 16 wherein said antisense nucleic acid comprises SEQ ID NO:3.
- ~~16.~~ A method for treating a person with a disease wherein said person is resistant to radiation or drug treatment of said disease, wherein resistance to said radiation or drug treatment

17. The method of claim 16 wherein said resistance to radiation or drug treatment results from a mutation in or overexpression of a gene selected from the group consisting of *sis* (PDGF- $\beta$ ); *trk*; *met*; *src*; *mos*; *protein kinase C  $\beta$ -1*; *ets-1*; *raf-1*; *Ha-ras*; *c-Fos*; *c-Jun*; *c-myc*; *Shc*; *Grb2*; *Sos*; *PLC $\gamma$* ; and a gene encoding ERK1, ERK2, MEKK, MEK1, MEK2, MAPK, SAPK, MAP2, MAP4, TNF- $\alpha$  receptor, EGF receptor, PKC- $\alpha$ , PC-PLC, PKC- $\epsilon$ , an RTK, a TCR-CD3, an STMR, a PTKs, or a G protein.
18. The method of claim 17 wherein said gene is *Ha-ras*.
19. The method of claim 17 wherein said gene is *raf-1*.
20. The method of claim 16 wherein said antisense nucleic acid comprises SEQ ID NO:3.

Add A<sup>2</sup>